

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Currently Amended): A process for producing a scratch-resistant coating, said process comprising:

applying at least one UV-curable coating composition comprising a mixture of at least one aliphatic urethane (meth)acrylate prepolymer PU having at least two double bonds per molecule and having a viscosity in the range from 250 to 11,000 mPa·s, and at least one reactive diluent, to a ~~target~~ substrate to form a wet coating and

curing said wet coating by exposure to ultraviolet radiation under an inert gas atmosphere,

wherein the aliphatic urethane prepolymer is obtained by reacting at least 25% of the isocyanate groups of a compound (A) containing isocyanate groups with (B) at least one hydroxy alkyl ester of acrylic acid, methacrylic acid or both acrylic acid and methacrylic acid, and subsequently reacting any remaining isocyanate groups of (A) with a chain extender selected from the group consisting of an aliphatic diol having up to 20 carbon atoms, a polyol having up to 20 carbon atoms, a diamine having up to 20 carbon atoms, a polyamine having up to 20 carbon atoms, an alkanolamine having up to 20 carbon atoms, a dimercaptan having up to 20 carbon atoms, a polymercaptan having up to 20 carbon atoms, a hydroxylalkylester of a long-chain dicarboxylic acid, and an alkylamineamide of a long chain dicarboxylic acid.

Claim 2 (Currently Amended): The process as claimed in claim 1, wherein said UV-curable coating composition further comprises at least one reactive diluent R selected from the group consisting of difunctional esters of acrylic acid, difunctional esters of methacrylic

acid, polyfunctional esters of methacrylic acid, polyfunctional esters of acrylic acid with acrylic acid, diols, polyols and mixtures thereof.

**Claim 3 (Currently Amended):** The process as claimed in claim 1, wherein, based on an overall weight of the coating composition, excluding pigments and fillers, the coating composition comprises:

5 - 90% by weight of at least one aliphatic urethane (meth)acrylate prepolymer;  
10 - 95% by weight of ~~at least one~~ the reactive diluent R; and  
0.1 - 5% by weight of at least one photoinitiator; and  
~~optionally 0 - 20% by weight of one or more further reactive diluents, and~~  
~~optionally 0 - 15% by weight, of one or more additives.~~

**Claim 4 (Currently Amended):** The process as claimed in claim 1, wherein the urethane (meth)acrylate prepolymer PU has a number-average molecular weight in the range from 500 to 5000.

**Claim 5 (Currently Amended):** The process as claimed in claim 1, wherein the urethane (meth)acrylate prepolymer PU has a double bond equivalent weight in the range from 250 to 2000.

**Claim 6 (Canceled).**

**Claim 7 (Currently Amended):** The process as claimed in claim 6 1, wherein component A is a prepolymer which contains a plurality of isocyanate groups and has at least two isocyanate groups per molecule, component A obtained by reacting at least one low

molecular mass aliphatic diisocyanate or polyisocyanate with a compound having at least two isocyanate-reactive functional groups, a ratio of isocyanate groups to functional groups being in the range of from 3:1 to 1:2.

**Claim 8 (Currently Amended):** The process as claimed in claim 6 1, wherein the one or more isocyanate groups of component A have been reacted in a stoichiometric ratio with one or more hydroxyl groups of component B.

**Claim 9 (Currently Amended):** The process as claimed in claim 6 1 wherein at least a portion of the free isocyanate groups of the urethane (meth)acrylate prepolymer PU have been reacted with one or more molecules which contain an isocyanate-reactive group and a hydrophilic, stabilizing group.

**Claim 10 (Currently Amended):** The process as claimed in claim 6 1 wherein at least a portion of the free isocyanate groups of the urethane (meth)acrylate prepolymer PU have been reacted with hydroxyalkyl esters of aliphatic dicarboxylic acids, alkylamine amides of aliphatic dicarboxylic acids or mixtures thereof, having at least 6 carbon atoms.

**Claim 11 (Currently Amended):** The process as claimed in claim 1, wherein the coating composition further comprises from 2 to 40% by weight of one or more pigments, based on the overall weight of the coating composition.

**Claim 12 (Currently Amended):** The process as claimed in claim 1, wherein the coating composition contains further comprises from 1 to 30% by weight of one or more fillers, based on the overall weight of the coating composition.

Claim 13 (Currently Amended): The process as claimed in claim 1, wherein the scratch-resistant coating is obtained by a multicoat coating process, said multicoat coating process comprising ~~the following steps:~~:

- i. applying a basecoat material to a substrate surface;
- ii. drying and/or crosslinking the basecoat film;
- iii. applying the UV-curable coating composition ~~a topcoat material obtained by the process as claimed in claim 1; and~~
- iv. curing the UV-curable coating composition ~~said topcoat material~~ by exposure to UV light under an inert gas atmosphere.

Claim 14 (Currently Amended): The process as claimed in claim 1, wherein the ~~target~~ substrate has a metallic surface.

Claim 15 (Currently Amended): The process as claimed in claim 3, wherein the coating composition ~~compositions~~ further comprises from 2 to 9% by weight of one or more additives.

Claim 16 (Currently Amended): The process as claimed in claim 5, wherein the aliphatic urethane (meth)acrylate prepolymer PU has a double bond equivalent weight in the range from 300 to 900 daltons.

Claim 17 (Previously Presented): The process as claimed in claim 13, wherein the basecoat material is pigmented.

Claim 18 (New): The process as claimed in claim 1, wherein said UV-curable coating composition comprises a reactive diluent comprising at least one esterified polyol having five or more acrylate groups.

Claim 19 (New): The process as claimed in Claim 1, wherein the aliphatic urethane prepolymer comprises reacted groups of a diamine or a polyamine.

Claim 20 (New): The process as claimed in claim 1, wherein the urethane prepolymer consists of reacted units of (A), (B), and (C).

Claim 21 (New): The process as claimed in claim 3, wherein the coating composition further comprises up to 15% by weight of one or more additives.

Claim 22 (New): The process as claimed in claim 3, wherein the coating composition further comprises up to 20% by weight of one or more further diluents.

Claim 23 (New): A scratch resistant coating prepared by the process as claimed in Claim 1.

Claim 24 (New): The process as claimed in claim 1, wherein said UV-curable coating composition comprises pentaerythritol penta/hexaacrylate.

BASIS FOR THE AMENDMENT

Claims 1-5 and 7-24 are active in the present application. Claim 6 has been canceled. Claim 1 has been amended to limit the aliphatic urethane prepolymer. Support for the amendment is found in the paragraph bridging pages 4 and 5 and the paragraph bridging pages 7 and 8. Claims 2-5, 7-16 have been amended for clarity and to conform with amended Claim 1. Claims 18-24 are new claims. Support for new Claims 18 and 24 is found on page 7, lines 7-45. Support for new Claim 19 is found in the specification on page 7, line 16. Support for new Claim 20 is found in the Examples. Support for new Claims 21 and 22 is found in original Claim 3. Support for new Claim 23 is found throughout the specification. No new matter is believed to have been added by this amendment.